

DEQ's Northern Region Petroleum Program current understanding of the Robinson Terminal North – the former Washington Post paper depot. October 2017.

On October 26, 2015, the Northern Regional Office Petroleum Program received information in a Phase II Environmental Site Assessment indicating that a past discharge of petroleum had occurred during historic use of the Robinson Terminal North (RTN) property on 500 and 501 North Union Street, the City of Alexandria. The information was provided as part of a bona fide prospective purchaser application made by the future developer of the property.

On November 17, 2015, DEQ issued pollution complaint number 2016-3090 and requested a site characterization report to assess the nature and extent of petroleum contaminants and determine what, if any, corrective action was necessary to prevent risks to human health and the environment from these contaminants. The characterization was completed by the developer in the second half of 2016 and beginning of 2017 to assess the nature and extent of petroleum contaminants and to meet the requirements of DEQ's Voluntary Remediation Program.

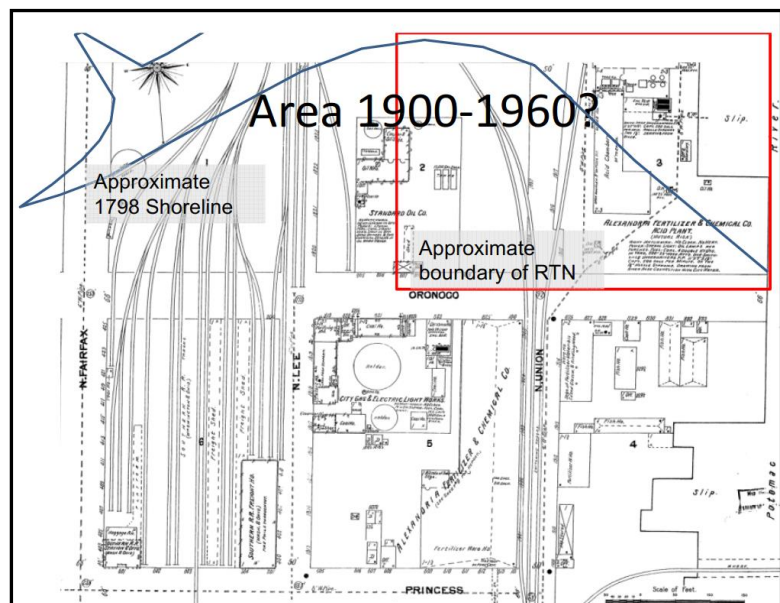


Detail from the 1863 Magnus "Bird's Eye View of Alexandria": the edge of RTN is highlighted

Site History

The information provided to the petroleum program indicates that the properties have had a long history of industrial and commercial use. From at least the early 1700s to the late 1800s the property is believed to have been the site of a number of warehouses and part of the Port of Alexandria. The eastern and northern part of the property was probably part of the Potomac and a creek (running down what is now Pendleton Road) until the late 1800s.

By the late 1800s the property was crossed by railway lines and had been developed as a sulfuric acid, fertilizer and pesticides factory, with the western part of the property used as a bulk oil storage depot. These uses continued until the 1960s. The existing warehouses are understood to have been constructed in 1968 (eastern warehouse) and 1976 (western warehouse).





The eastern warehouse had three diesel underground storage tanks (USTs) on site until their removal in March 2016. These USTs were the subject of a previous pollution complaint 2006-3131, which was closed in 2006 after a site characterization was completed and indicated no significant petroleum release had occurred.

USTs being removed in March 2016

The tank closure report was received on April 26, 2016 and is included in documents on this webpage. Soil and groundwater samples contained concentrations of petroleum consistent with closed case 2006-3131.

Geology

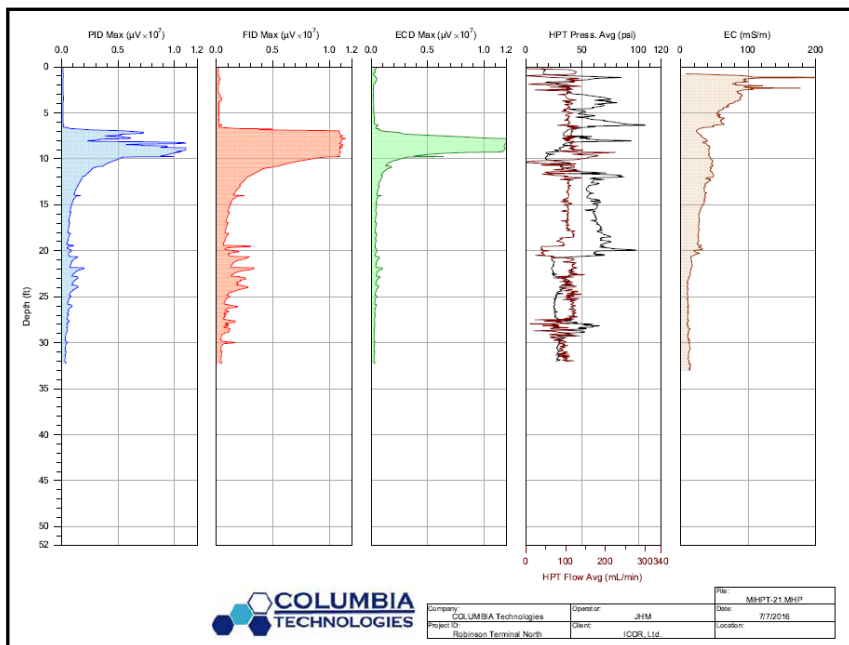
The site is underlain by backfill, Potomac River alluvium and the Potomac Formation clay. Subsurface investigations completed to date show backfill approximately 5 feet thick beneath the western area, increasing to between 15 and 20 feet in the areas near the Potomac. The fill is locally underlain by between 3 and 10 feet of alluvial clay. Beneath the clay (or directly beneath the fill where the clay is absent) is between 8 and 22 feet of alluvial sand. Gravel between 5 and 20 feet underlies the sand in three of six deep boreholes across the centre of the site. The alluvial sequence is underlain at 32 to 47 feet by stiff Potomac Formation clays. Groundwater is between 10 feet (at the western, higher side of the site) to 5 feet deep and is likely to flow through the alluvium toward the Potomac. Preferential flow may follow buried river channel features, such as those represented by the deep gravel, and old creek beds.

Petroleum Program contaminants of concern

Petroleum contaminants of concern may be present as a result of bulk storage from the early 1900s to the 1960s, diesel fuel storage from the 1960s to the present, and, potentially, from the use of fuel oil as an energy source during operation of the chemical plant. Petroleum, if present in the subsurface, poses a potential threat of oil discharges to the Potomac River, and, if unabated during development, a potential threat to future occupiers of the property. Characterization of the nature and extent of petroleum is therefore necessary.

Site Characterization Report

In August 2017 DEQ received the developer's site characterization report, including the results of the enhanced site assessment using laser induced fluorescence (LIF), membrane interface probes (MIPs), and electron capture detection technology. These insitu test methods allowed an accurate distribution of petroleum and other contaminants to be mapped horizontally and vertically to within inches of precision. These tests were supplemented by soil and water testing, with sample locations determined by the results of the *in-situ* survey. Additional testing was carried out to meet the requirements of DEQ's Voluntary Remediation Program.



Results of a MIP probe showing petroleum at the RTN facility

The results of the investigation confirmed the general understanding of this case and, in particular, confirmed potentially significant aged petroleum contamination exists in the general area of the former Standard Oil depot storage tanks, closed in the 1920s and suggested some dissolved phase petroleum moving north east toward Oronoco Bay and the Potomac River. Additional groundwater sampling and monitoring was therefore requested by DEQ to be assess the nature and magnitude of any dissolved phase petroleum to allow the need for corrective action to be evaluated. The focus of the petroleum program continues to be on the risk to the Potomac River water quality and on the long term health of future occupants of the property. Actions to address risks posed by non-petroleum contaminants will be addressed by other regulatory programs, as appropriate. On September 26, 2017, DEQ presented a summary of the site characterization to the Ad Hoc Monitoring Group on Waterfront Construction. A link to the presentation can be found on DEQ's RTN webpage.

Work done 2018

Groundwater monitoring was completed in January and June 2018 that confirmed petroleum contamination present near the old oil terminal but did not indicate any significant migration of petroleum contaminants toward the Potomac. A corrective action plan (CAP) was prepared for Cityinterest and submitted on January 31, 2019. The CAP describes correction actions, engineering

controls and institutional controls that should be implemented during potential redevelopment of the property.